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Application Serial Number:	10/750 323
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RAW SEQUENCE LISTING DATE: 10/19/2004
PATENT APPLICATION: US/10/750,323 TIME: 09:18:42

Input Set : N:\Crf3\RULE60\10750323.raw.txt
Output Set: N:\CRF4\10192004\J750323.raw

SEQUENCE LISTING

```
(1) GENERAL INFORMATION:
   5
           (i) APPLICANT: Pulst, Stefan M
          (ii) TITLE OF INVENTION: NUCLEIC ACID ENCODING SPINOCEREBELLAR
   7
   8
                                   ATAXIA-2 AND PRODUCTS RELATED THERETO
  10
         (iii) NUMBER OF SEQUENCES: 19
  12
          (iv) CORRESPONDENCE ADDRESS:
  13
                (A) ADDRESSEE: Mueting, Raasch & Gebhardt, P.A.
                (B) STREET: 119 North Fourth Street
                (C) CITY: Minneapolis
               (D) STATE: Minnesota
                (E) COUNTRY: USA
  17
                (F) ZIP: 55401
  18
         (v) COMPUTER READABLE FORM:
  20
                (A) MEDIUM TYPE: Floppy disk
  21
  22
                (B) COMPUTER: IBM PC compatible
                (C) OPERATING SYSTEM: PC-DOS/MS-DOS
  23
                (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
  24
         (vi) CURRENT APPLICATION DATA:
  26
-> 27
                (A) APPLICATION NUMBER: US/10/750,323
-> 28
                (B) FILING DATE: 30-Dec-2003
-> 33
                (C) CLASSIFICATION: 536
-> 30
        (vii) PRIOR APPLICATION DATA:
  31
                (A) APPLICATION NUMBER: US/08/727,084
  32
                (B) FILING DATE: 08-OCT-1996
  35
        (viii) ATTORNEY/AGENT INFORMATION:
                (A) NAME: Mueting, Ann M.
                (B) REGISTRATION NUMBER: 33,977
  37
                (C) REFERENCE/DOCKET NUMBER: 232.00010101
  38
          (ix) TELECOMMUNICATION INFORMATION:
  40
  41
                (A) TELEPHONE: 612/305-1220
                (B) TELEFAX: 612/305-1228
  42
  46 (2) INFORMATION FOR SEQ ID NO: 1:
  48
           (i) SEQUENCE CHARACTERISTICS:
  49
                (A) LENGTH: 516 base pairs
                (B) TYPE: nucleic acid
  50
                (C) STRANDEDNESS: both
  51
                (D) TOPOLOGY: both
         (ii) MOLECULE TYPE: DNA (genomic)
  54
          (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 1:
  60 TTGGTAGCAA CGGAAACGGC GGCGGCGCT TTCGGCCCGG CTCCCGGCGG CTCCTTGGTC
                                                                               60
  62 TCGGCGGCCC TCCCCGCCCC TTCGTCGTCG TCCTTCTCCC CCTCGCCAGC CCGGGCGCCC
  64 CTCCGGCCGC GCCAACCCGC GCCTCCCCGC TCGGCGCCCG TGCGTCCCCG CCGCGTTCCG
                                                                              180
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PATENT APPLICATION: US/10/750,323 TIM

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66 GCGTCTCCTT GGCGCGCCC GCTCCCGGCT GTCCCCGCCC GGCGTGCGAG CCGGTGTATG	240 300												
68 GGCCCCTCAC CATGTCGCTG AAGCCCCAGC AGCAGCAGCA GCAGCAGCAG CAACAGCAGC	360												
70 AGCAGCAACA GCAGCAGCAG CAGCAGCAGC AGCCGCCGCC CGCGGCTGCC AATGTCCGCA 72 AGCCCGGCGG CAGCGGCCTT CTAGCGTCGC CCGCCGCCGC GCCTTCGCCG TCCTCGTCCT	420												
	480												
74 CGGTCTCCTC GTCCTCGGCC ACGGCTCCCT CCTCGGTGGT CGCGGCGACC TCCGGCGGCG 76 GGAGGCCCGG CCTGGGCAGG TGGGTGTCGG CACCCC	516												
78 (2) INFORMATION FOR SEQ ID NO: 2:													
80 (i) SEQUENCE CHARACTERISTICS:													
81 (A) LENGTH: 4481 base pairs													
82 (B) TYPE: nucleic acid													
83 (C) STRANDEDNESS: both													
84 (D) TOPOLOGY: both													
86 (ii) MOLECULE TYPE: cDNA													
89 (ix) FEATURE:													
90 (A) NAME/KEY: CDS													
91 (B) LOCATION: 1634101													
94 (xi) SEQUENCE DESCRIPTION: SEQ ID NO: 2:													
96 ACCCCCGAGA AAGCAACCCA GCGCGCCGCC CGCTCCTCAC GTGTCCCTCC CGGCCCCGGG	60												
98 GCCACCTCAC GTTCTGCTTC CGTCTGACCC CTCCGACTTC CGGTAAAGAG TCCCTATCCG	120												
100 CACCTCCGCT CCCACCCGGC GCCTCGGCGC GCCCGCCCTC CG ATG CGC TCA GCG	174												
101 Met Arg Ser Ala													
102													
104 GCC GCA GCT CCT CGG AGT CCC GCG GTG GCC ACC GAG TCT CGC CGC TTC	222												
105 Ala Ala Ala Pro Arg Ser Pro Ala Val Ala Thr Glu Ser Arg Arg Phe													
106 5 10 15 20	0.50												
108 GCC GCA GCC AGG TGG CCC GGG TGG CGC TCG CTC CAG CGG CCG GCG CGG	270												
109 Ala Ala Arg Trp Pro Gly Trp Arg Ser Leu Gln Arg Pro Ala Arg													
110 25 30 35 112 CGG AGC GGG CGG GGC GGT GGC GCG GCC CCG GGA CCG TAT CCC TCC	318												
113 Arg Ser Gly Arg Gly Gly Gly Gly Ala Ala Pro Gly Pro Tyr Pro Ser	310												
113 Arg Ser Gry Arg Gry Gry Gry Gry Ara Ara Fro Gry Fro 191 Fro Ser 114 40 45 50													
116 GCC GCC CCT CCC CCG CCC GGC CCC GCC CCT CCC TCC CGG CAG AGC	366												
117 Ala Ala Pro Pro Pro Gly Pro Gly Pro Pro Ser Arg Gln Ser													
118 55 60 65													
120 TCG CCT CCC TCC GCC TCA GAC TGT TTT GGT AGC AAC GGC AAC GGC GGC	414												
121 Ser Pro Pro Ser Ala Ser Asp Cys Phe Gly Ser Asn Gly Asn Gly Gly													
122 70 75 80													
124 GGC GCG TTT CGG CCC GGC TCC CGG CGG CTC CTT GGT CTC GGC GG	462												
125 Gly Ala Phe Arg Pro Gly Ser Arg Arg Leu Leu Gly Leu Gly Gly Pro													
126 85 90 95 100													
128 CCC CGC CCC TTC GTC GTC CTT CTC CCC CTC GCC AGC CCG GGC GCC	510												
129 Pro Arg Pro Phe Val Val Leu Leu Pro Leu Ala Ser Pro Gly Ala													
130 105 110 115													
132 CCT CCG GCC GCG CCA ACC CGC GCC TCC CCG CTC GGC GCC CGT GCG TCC	558												
133 Pro Pro Ala Ala Pro Thr Arg Ala Ser Pro Leu Gly Ala Arg Ala Ser													
134 120 125 130													
136 CCG CCG CGT TCC GGC GTC TCC TTG GCG CGC CCG GCT CCC GGC TGT CCC	606												
137 Pro Pro Arg Ser Gly Val Ser Leu Ala Arg Pro Ala Pro Gly Cys Pro													
138 135 140 145													

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Input Set: N:\Crf3\RULE60\10750323.raw.txt
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140	CGC	CCG	GCG	TGC	GAG	CCG	GTG	TAT	GGG	CCC	CTC	ACC	ATG	\mathtt{TCG}	CTG	AAG	654
141	Arg	Pro	Ala	Cys	Glu	Pro	Val	Tyr	Gly	Pro	Leu	Thr	Met	Ser	Leu	Lys	
142		150					155					160					
	CCC																702
145	Pro	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Gln	
	165					170					175					180	
	CAG																750
149	Gln	Gln	Gln	Gln	Gln	Gln	Gln	Pro	Pro	Pro	Ala	Ala	Ala	Asn		Arg	
150					185					190					195		
	AAG																798
	Lys	Pro	Gly	_	Ser	Gly	Leu	Leu		Ser	Pro	Ala	Ala		Pro	Ser	
154				200					205					210			244
	CCG																846
	Pro	Ser		Ser	Ser	Val	Ser		Ser	Ser	Ala	Thr		Pro	ser	ser	
158	ama	ama	215	aaa	7.00	maa	999	220	aaa	T 00	000	000	225	aaa	7 (7 7	aam	0.04
	GTG																894
	Val		Ата	Ата	Inr	ser		GIY	GIY	arg	Pro		ьeu	GIY	Arg	GIA	
162	007	230	z am	77.7	70.70.70	aa 3	235	COM	ON C	mam	7.00	240	mam	mmm	CAT	CCA	043
	CGA																942
	Arg	ASI	ser	Asn	ьуѕ	_	ьeu	Pro	GIII	ser	255	ше	ser	Pile	Asp	260	
	245 ATC	mam	CCA	7.70	N TO C	250	א חייבי	CTTTT	CAT	אידי א		א כיא	ጥርን	CTT	CTTT		990
	Ile																990
170	116	ıyı	Ата	ASII	265	Arg	Mec	vai	птэ	270	пеп	1111	SCI	vai	275	Gry	
	TCC	71 71 71	тст	CAA		CAA	стс	70 70 70	א א ידי		CCT	מידימ	יים	CDD		ርጥጥ	1038
	Ser															_	1030
174	261	цуБ	Суз	280	vai	GIII	vai	цуз	285	Gry	СТУ	110	ı yı	290	GLY	Val	
	TTT	ΔΔΔ	AСT		AGT	CCG	AAG	тст		ጥጥር፥	GTA	СТТ	GAT		GCA	САТ	1086
	Phe																_ +
178		-1.0	295	-1-			-1.0	300					305				
	GAG	AAA		ACA	GAA	TCC	AGT		GGG	CCG	AAA	CGT		GAA	ATA	ATG	1134
	Glu														_		
182		310					315		•		•	320					
184	GAG	AGT	ATT	TTG	TTC	AAA	TGT	TCA	GAC	TTT	GTT	GTG	GTA	CAG	TTT	AAA	1182
185	Glu	Ser	Ile	Leu	Phe	Lys	Cys	Ser	Asp	Phe	Val	Val	Val	Gln	Phe	Lys	
186	325					330					335					340	
188	GAT	ATG	GAC	TCC	AGT	TAT	GCA	AAA	AGA	GAT	GCT	TTT	ACT	GAC	TCT	GCT	1230
189	Asp	Met	Asp	Ser	Ser	Tyr	Ala	Lys	Arg	Asp	Ala	Phe	Thr	Asp	Ser	Ala	
190					345					350					355		
192	ATC	AGT	GCT	AAA	GTG	AAT	GGC	GAA	CAC	AAA	GAG	AAG	GAC	CTG	GAG	CCC	1278
193	Ile	Ser	Ala	Lys	Val	Asn	Gly	Glu	His	Lys	Glu	Lys	Asp	Leu	Glu	Pro	
194				360					365					370			
	TGG																1326
197	Trp	Asp	Ala	Gly	Glu	Leu	Thr	Ala	Asn	Glu	Glu	Leu	Glu	Ala	Leu	Glu	
198			375					380					385				
	TAA																1374
	Asn		Val	Ser	Asn	Gly		Asp	Pro	Asn	Asp		Phe	Arg	Tyr	Asn	
202		390					395					400					
204	GAA	GAA	AAT	TAT	GGT	GTA	GTG	TCT	ACG	TAT	GAT	AGC	AGT	TTA	TCT	TCG	1422

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Input Set : N:\Crf3\RULE60\10750323.raw.txt
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					_	_				_	_	_	_	_	_		
205	Glu	Glu	Asn	Tyr	Gly		Val	Ser	Thr	Tyr		Ser	Ser	Leu	Ser		
206						410					415					420	7.470
												GAA					1470
209	Tyr	Thr	Val	Pro	Leu	Glu	Arg	Asp	Asn		Glu	Glu	Phe	Leu		Arg	
210					425					430					435		
												GAG					1518
213	Glu	Ala	Arg	Ala	Asn	Gln	Leu	Ala	Glu	Glu	Ile	Glu	Ser	Ser	Ala	Gln	
214				440					445					450			
												AGG					1566
217	Tyr	Lys	Ala	Arg	Val	Ala	Leu	Glu	Asn	Asp	Asp	Arg	Ser	Glu	Glu	Glu	
218			455					460					465				
												CGT					1614
221	Lys	Tyr	Thr	Ala	Val	Gln	Arg	Asn	Ser	Ser	Glu	Arg	Glu	Gly	$_{ m His}$	Ser	
222		470					475					480				•	
224	ATA	AAC	ACT	AGG	GAA	AAT	AAA	TAT	ATT	CCT	CCT	GGA	CAA	AGA	TAA	AGA	1662
225	Ile	Asn	Thr	Arg	Glu	Asn	Lys	Tyr	Ile	Pro	Pro	Gly	Gln	Arg	Asn	Arg	
	485					490					495					500	
228	GAA	GTC	ATA	TCC	TGG	GGA	AGT	GGG	AGA	CAG	AAT	TCA	CCG	CGT	ATG	GGC	1710
												Ser					
230					505	_				510					515		
232	CAG	CCT	GGA	TCG	GGC	TCC	ATG	CCA	TCA	AGA	TCC	ACT	TCT	CAC	ACT	TCA	1758
												Thr					
234				520	•				525	_				530			
	GAT	TTC	AAC	CCG	AAT	TCT	GGT	TCA	GAC	CAA	AGA	GTA	GTT	AAT	GGA	GGT	1806
												Val					
238			535				4	540	-				545		-		
	GTT	CCC		CCA	TCG	CCT	TGC	CCA	TCT	CCT	TCC	TCT	CGC	CCA	CCT	TCT	1854
												Ser					
242		550	1				555					560	_				
	CGC		CAG	TCA	GGT	CCC	AAC	TCT	CTT	CCA	CCT	CGG	GCA	GCC	ACC	CCT	1902
												Arg					
	565	-1-			1	570					575	, –				580	
		CGG	CCG	CCC	TCC		CCC	CCC	TCG	CGG	CCA	TCC	AGA	CCC	CCG	TCT	1950
												Ser					
250		5			585	ب				590			-		595		
	CAC	רככ	тСт	GCT		GGT	тст	CCA	GCT		GTC	\mathbf{TCT}	ACT	ATG	CCT	AAA	1998
												Ser					
254	1115	110	DCI	600		. 011	501		605					610		•	
	CGC	ΔТС	· ጥረጥ		GAA	GGG	ССТ	CCA		ATG	TCC	CCA	AAG		CAG	CGA	2046
257	Ara	Met	Ser	Ser	Glu	Glv	Pro	Pro	Ara	Met	Ser	Pro	Lvs	Ala	Gln	Arq	
258	Arg	ricc	615	001	014	Q±1	110	620	5				625			5	
	CVL	ССТ		ידיממ	CAC	ΔCΔ	CTT		GCT	GGG	AGG	GGT		АТА	TCC	AGT	2094
260	Uic	Dro	λrα	Acn	Hic	Ara	Val	Ser	Δla	Glv	Ara	Gly	Ser	Tle	Ser	Ser	
	1112	630	лгу	POII	1113	434.9	635		114.0	- I	9	640					
262	aaa		(17.7	արա	Cimy	TICC		አአሮ	CCA	CCC	ልርጥ	GAA	/	ርርጥ	ΔСТ	ССТ	2142
												Glu					
	-	ьeu	GIU	Pne	val		птѕ	AsII	PLO	FIO	655	GIU	AIA	лта	1111	660	
	645	OM?	aa*	700	7 00	650	aaa	TICC	ccc	CCA		TCC	ጥርን	ጥርን	ርጥር		2190
												TGG					2120
269	Pro	Val	Ala	Arg	Thr	ser	Pro	ser	GTY:	GLY	rnr	Trp	ser	ser	val	vaı	

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Input Set : N:\Crf3\RULE60\10750323.raw.txt
Output Set: N:\CRF4\10192004\J750323.raw

270					665					670					675		
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												Arg					
274		-		680	_				685			_		690			
276	AGA	CAG	AAC	AGT	ATT	GGA	AAT	ACC	CCC	AGT	GGG	CCA	GTT	CTT	GCT	TCT	2286
												Pro					
278			695			_		700					705				
280	CCC	CAA	GCT	GGT	ATT	ATT	CCA	ACT	GAA	GCT	GTT	GCC	ATG	CCT	ATT	CCA	2334
281	Pro	Gln	Ala	Gly	Ile	Ile	Pro	Thr	Glu	Ala	Val	Ala	Met	Pro	Ile	Pro	
282		710		_			715					720					
284	GCT	GCA	TCT	CCT	ACG	CCT	GCT	AGT	CCT	GCA	TCG	AAC	AGA	GCT	GTT	ACC	2382
285	Ala	Ala	Ser	Pro	Thr	Pro	Ala	Ser	Pro	Ala	Ser	Asn	Arg	Ala	Val	Thr	
286		f				730					735					740	
												GAT					2430
289	Pro	Ser	Ser	Glu	Ala	Lys	Asp	Ser	Arg	Leu	Gln	Asp	Gln	Arg	Gln	Asn	
290					745					750					755		
												AAT					2478
293	Ser	${\tt Pro}$	Ala	Gly	Asn	Lys	Glu	Asn	Ile	Lys	Pro	Asn	Glu	Thr	Ser	Pro	
294				760					765					770			
												CCA					2526
297	Ser	Phe	Ser	Lys	Ala	Glu	Asn	Lys	Gly	Ile	Ser	Pro	Val	Val	Ser	Glu	
298			775					780					785				
												AAG					2574
301	His	Arg	Lys	Gln	Ile	Asp		Leu	Lys	Lys	Phe	Lys	Asn	Asp	Phe	Arg	
302		790					795					800			~		0.600
												CAA					2622
305	Leu	Gln	Pro	Ser	Ser		Ser	Glu	Ser	Met		Gln	Leu	Leu	Asn		
	805					810		· 	~		815		a		3 mm	820	2670
												AAA					2670
	Asn	Arg	Glu	Gly		Lys	Ser	Arg	Asp		11e	Lys	Asp	ьys		GLU	
310	~~=	- ~-	~~=		825	mam	mma	7 COC	~~~	830	7 00	700	700	7 7 C	835	N.C.C	2718
												AGC					2710
	Pro	ser	Ala		Asp	ser	Pne	тте		ASII	Ser	Ser	ser	850	Cys	1111	
314	» cm	aaa	700	840	770	aaa	יוי א א	700	845	N.C.C	א חיחי	TCC	CCT		מידת	CTT	2766
												Ser					2700
	ser	GIA		ser	ьуѕ	PIO	ASII	860	PIO	per	116	261	865	Jer	110	пси	
318	7 CITI	777	855	CZC	CAC	አአሮ	አረረ		CCT	GNG	CTC	ACT		$C\Delta\Delta$	GGG	СТТ	2814
												Thr					2011
321	ser		TIIT	Giu	птр	цур	875	СТУ	FIO	Giu	vai	880	DCI	0111	Ory	val	
	CAC	870	TOO	N.C.C	CCA	CCN		מממ	$C\Delta\Delta$	GAG	20 20 20	GAC	GAT	AAG	GAA	GAG	2862
												Asp					
	885	1111	SCI	SCI	FIO	890	Cys	шуы	0111	OLU	895	пор	1101	270	010	900	
		Z Z Z	GAC	GCA	ርርጥ		CAA	ርተጥ	AGG	AAA		ACA	TTG	ААТ	CCC		2910
												Thr					_ ,
330	пур	шую	дал	тта	905	Oru	O ± 1.1	+41	9	910					915		
	GCA	ልልር	GAG	ጥጥር		CCA	ССТ	TCC	TTC		CAG	CCA	AAG	CCT		ACT	2958
												Pro					
334	1.1.U	_y .5		920					925				1 -	930			
J J 4				220													

VERIFICATION SUMMARY

DATE: 10/19/2004

PATENT APPLICATION: US/10/750,323

TIME: 09:18:43

Input Set : N:\Crf3\RULE60\10750323.raw.txt Output Set: N:\CRF4\10192004\J750323.raw

L:27 M:220 C: Keyword misspelled or invalid format, [(A) APPLICATION NUMBER:]

L:28 M:220 C: Keyword misspelled or invalid format, [(B) FILING DATE:]

L:30 M:220 C: Keyword misspelled or invalid format, [(vii) PRIOR APPLICATION DATA:] L:33 M:238 W: Alpha Fields not Ordered, Reordered [(C) CLASSIFICATION:] of (1)(vi)